AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-044

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-044.01
ARISSat-1 Update - No Wednesday Deployment of ARISSat-1

AMSAT News Service Bulletin 044.01
>From AMSAT HQ SILVER SPRING, MD.
February 13, 2011
To All RADIO AMATEURS
BID: $ANS-044.01

1. On Wednesday, 9 FEB 11 NASA announced that ISS Russian Segment (RS) EVA28 will be broadcast live on NASA TV, starting at 1245 UTC on Wednesday, 16 FEB 11. Included in the schedule for RS EVA28 posted by NASA was the deployment of ARISSat-1/RadioSkaf-V/Kedr RS EVA 28 is being managed by RSC-Energia, the operating entity of the ISS RS, as well as the Soyuz and Progress vehicles.

2. On Thursday, 10 FEB 11 RSC-Energia finalized plans to perform a preliminary test of ARISSat-1 while inside the ISS to verify that the satellite could transmit following its delivery to the ISS on a Progress resupply vehicle.

This was not an event that was previously scheduled. Instructions were sent to the Cosmonauts to give them a test procedure with activation scheduled for that day at 1605 UTC. For this test, the ARISSat-1 VHF antenna port was connected to an RF patch panel inside of the Zvezda Service Module, to provide an RF connection of the satellite to one of the four ARISS external antennas mounted on the aft end of the Service Module. ARISSat-1 was then activated and the Cosmonauts listened for the satellite's FM transmissions using the Kenwood TM-D700(E). This radio is normally used for ARISS school contacts which is connected to an adjacent ARISS external antenna.

During the test, RSC-Energia decided to keep the transmitter on until Friday morning. AMSAT was notified Friday morning that the

cosmonauts reported that tests were nominal. A number of ground stations reported hearing the transmissions as well, including AMSAT VP-Engineering Tony Monteiro, AA2TX in North Andover, MA.

This preliminary test was not announced to amateurs in advance due to the short time frame between RSC-Energia's decision to conduct this test and when it was conducted as well as the uncertainty as to how long the satellite's transmitter would remain activated.

3. AMSAT learned on Friday morning, 11 FEB 11 that the deployment of the ARISSat-1 satellite had been removed from the RSA EVA 28 timeline by RSC-Energia management. NASA was informed that the ARISSat-1 deployment would be deferred to a later RS EVA, due to changes in the tasks associated with the configuration of RS pay-loads to be performed during RS EVA 28. Subsequently, RSC-Energia informed NASA that deployment of ARISSat-1 will be added to RSC EVA 29 currently scheduled for July 2011.

[ANS thanks the ARISSat-1 Team for the above information]

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SB SAT @ AMSAT $ANS-044.02
ARRISat-1 Team Pointers to Get Ready for SSTV Reception

AMSAT News Service Bulletin 044.02
>From AMSAT HQ SILVER SPRING, MD.
February 13, 2011
To All RADIO AMATEURS
BID: $ANS-044.02

The ARISSat-1 FM downlink on 145.950 MHz includes live SSTV images as part of the cycling voice ID, select spoken telemetry values, and the international greeting messages. The recently announced schedule delay for ARISSat-1 deployment gives every one time to begin station improvements to receive SSTV pictures from orbit.

One fun feature is that there are four SSTV cameras mounted on the spacecraft. On photos of ARISSat-1 you may have noticed black brackets on the outside of the spacecraft. These hold the mirrors that reflect the light onto the lens of the cameras. The software-defined-transponder will use the image data from the cameras to generate the SSTV downlink.

ARISSat's software will sequentially select a new or stored image from one the four cameras. There are two pre-recorded images as part of the sequence. The camera that took the the picture can be identified by the color of the call sign in the upper left of the SSTV image. The SSTV image will be sent down as FM audio SSTV in Robot 36 format on 145.950 MHz about every 140 seconds.

The RF downlink power on the 145.950 MHz FM downlink will be 250mW which is predicted to provide a link margin around 6 dB on an HT with a 'big whip' when the satellite is at 15 degrees elevation. This should be sufficient to receive SSTV pictures although you may need to orient the whip to line up the antenna polarization.

ARISSat-1 is not stabilized so the antenna orientation is unpredict-able and a certain amount of fading will happen. The receiving link margin may be improved with a handheld beam such as an "Arrow", "Elk", or "Cheap Yagi" antenna.

(See: http://www.wa5vjb.com/references/Cheap%20Antennas-LEOs.pdf)

General Overview Radio-to-Soundcard Interface

To view the SSTV downlink from ARISSat-1 you'll need a computer running SSTV software for your soundcard and an audio connection between your radio and the computer.

If you are already on the air with other amateur radio soundcard applications chances are you are ready to receive ARISSat's SSTV downlink with little or no modification to your setup.

The audio from the radio to the computer is the key link. An initial "Receive Only" configuration is easily done consisting of an audio patch cable between your radio and the soundcard. Take the speaker or headphone output from the radio and run it into the line (or mic) input on your PC sound card.

Setting the level is simple also as the MMSSTV software has a bar indicator. Just adjust the sound card gain slider and/or radio volume control so that the SSTV signal is within the center part of the bar. MMSSTV will give you an "overflow" indication if the volume is too high.

If your rig has a 'Line Out' connection this can be run to the soundcard 'Line In'. Using the radio 'Line Out' you won't have to deal with the interaction of the radio's volume control with the soundcard levels. But you will still need to use the soundcard 'Volume Control' to set the 'Line In' levels.

SSTV Software Download Sites

There are many amateur radio SSTV software decoding applications available. One of the easiest to use on Windows computers is the MMSSTV program. This can be downloaded from:
http://mmhamsoft.amateur-radio.ca/pages/mmsstv.php

MMSSTV installs like most other Windows software. The download site has audio test files for you to learn with. If you have an HF rig the SSTV crowd hangs out 14.230 MHz and you can use their signals for testing and learning.

MMSSTV will also automatically determine which SSTV protocol is in use. You won't need to remember Robot 36 if you set MMSSTV's RX mode to 'Auto'.

SSTV software for the Mac is available at:
http://web.me.com/kd6cji/MacSSTV/MultiScan.html

[ANS thanks the ARISSat-1 Team for the above information]

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SB SAT @ AMSAT $ANS-044.03
View Student Projects Flying on ARISSat-1

AMSAT News Service Bulletin 044.03
>From AMSAT HQ SILVER SPRING, MD.
February 13, 2011
To All RADIO AMATEURS
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ARISSat-1 will carry many education-based features encouraging stu-

dent interaction. During the development of the satellite, students from around the world were invited to submit images and letters documenting their participation in science activities and projects.

These submissions have been processed and stored on a memory chip that has been attached to ARISSat-1 and is flying along with the craft as it orbits the Earth. The student projects and photos can all be viewed ARISS Europe web site at:
http://www.ariss-eu.org/arissat-1.htm

[ANS thanks ARISS-Europe for the above information]

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SB SAT @ AMSAT $ANS-044.04
AMSAT Awards Announcement

AMSAT News Service Bulletin 044.04
>From AMSAT HQ SILVER SPRING, MD.
February 13, 2011
To All RADIO AMATEURS
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AMSAT Director Contests and Awards Bruce Paige, KK5DO says that congratulations are in order for the first awards issued for 2011.

The following have entered into the Satellite Communicators Club for making their first satellite QSO.
Anthony Allen, W6CSA
Wyatt Dirks, AC0RA
Brian Erwin, KJ4TDM
Palo Lanca, 9A3DPL
Zeljko Eklic, 9A1WW
Vaclav Ujcik WD9HBC

The following have earned the AMSAT Communications Achievement Award.
Wyatt Dirks, AC0RA #531
Patrick Farcon, N2VYT #532

The following have earned the South Africa Satellite Communications Achievement award
Wyatt Dirks, AC0RA #US163
Patrick Farcon, N2VYT #US164

To see all the awards visit http://www.amsat.org.

[ANS thanks Bruce Paige, KK5DO for the above information]

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SB SAT @ AMSAT $ANS-044.05
AA5UK Announces Plans for ZF2AE Grand Cayman Satellite Operation

AMSAT News Service Bulletin 044.05
>From AMSAT HQ SILVER SPRING, MD.
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Adrian, AA5UK will be operating portable as ZF2AE from Grand Cayman and as ZF2AE/ZF8 from Little Cayman from March 23th to April 5th, 2011.

Most activity will be in the afternoons and evenings using two FT-817s
and an Elk Antenna. He plans to operate holiday style on the FM and
SSB satellites with some HF.

Activity will be from grids: EK99hi from March 23 - 24th, EK99xp from
March 25th - April 2nd (he plans to operate HF during part of CQ WPX
SSB contest while on Little Cayman: 40m to 10 m) and EK99kh from
April 2nd - April 5th.

Time permitting; he will try to make it to grid FK09. Frequently check
AMSAT-BB and http://twitter.com/AA5UK for last minute operational updates.
QSL Direct with SASE, the Bureau, LOTW or eQSL.

[ANS thanks Adrian, AA5UK for the above information]

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SB SAT @ AMSAT $ANS-044.06
Satellite Shorts From All Over

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+ Get ARISSat-1 updates via SMS by texting 'follow Arissat1'
  (no quotes) to 40404 in the United States. Codes for other
  countries can be found at http://twitter.com/arissat1

+ Roland, PY4ZBZ received the ARISSat-1 145.950 MHz test transmission
  from the ISS on February 10 when the crew tested the satellite using
  one of the external antennas on the space station. Audio file can be
  found at: http://www.qsl.net/py4zbz/satelite/ARISSAT1PY4ZBZ1.wav

+ A web based satellite tracker can be found at:
  http://carlfretwell.com/satellites/

+ A YouTube video shows that a simple handheld radio is all you need
  to hear Radio Amateur Astronauts from the ISS. In the video Astro-
  naut Catherine Coleman, KC5ZTH is using the ISS Amateur Radio sta-
  tion to talk to young people at a school radio station near Ulm,
  Germany. Watch ISS hamradio contact received with a Kenwood hand-
  held TH-F7: http://tinyurl.com/5rgslof (SouthGate)

+ ICOM factory tour slides are posted at:
  http://www.nsarc.ca/hf/icom2010.pdf

+ Good DX via AO-51: Pierre ZS8M on Marion island made contact with
  John ZD9GI on Gough Island, both remotely located islands in the
  South Atlantic. Pierre also logged ZS1LS, ZS2BK, ZS3SVD, ZR5JT,
  5R8KH, ZS1UR , ZS6AC, ZD9GI and V51PJ.

+ Good DX via AO-7: Gary, K4MF and Luis, LU6QI made a CW contact
  on AO-7 Mode B on January 30, 2011. Both stations reported a
  clear copy with the satellite just above the horizon. The
  distance is 7024.45 KM.

+ The next Hudson Valley Sat Com Group net is February 17 at 2000 EST
  (UTC-5) on the 146.97 MHz. Repeater (-600; Pl 100); w/ an Echolink
  Node of "N2EYH-L" More info: http://www.hvsatcom.org. (Stu, WA2BSS)

+ SA AMSAT reminds satellite operators that SO67 operates on the

following schedule:
Week 1 America
Week 2 Europe
Week 3 Asia
Week 4 Eastern Asia/Australasia

The schedules are published on http://www.amsatsa.org.za

+ Jim, G3WGM uploaded a very brief description plus a few pics of the FUNcube model: http://funcube.org.uk/overview/model/

+ Two satellite videos of the February blizzard that swept across the continental United States can be viewed at: http://tinyurl.com/6zbad68 (UniverseToday.com)

+ Brad Goodspeed created an animation which shows different planets in our solar system as they would appear in the sky if it shared an orbit with our Moon, 380,000 km from earth: http://bradblogspeed.com/what-would-neptune-look-like-if-it-orbited-ea

+ Edge of Space Sciences Balloon Flight, Saturday, 19 Feb 11 from Colorado (USA) with amateur radio aboard. Details at: http://www.eoss.org/flight/index.html

[ANS thanks everyone for the above information]

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SB SAT @ AMSAT $ANS-044.07
Opportunity for Students to Participate on "Extra" Shuttle Mission

AMSAT News Service Bulletin 044.07
>From AMSAT HQ SILVER SPRING, MD.
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UniverseToday published a news item (http://tinyurl.com/6dnjp4e) with a new opportunity for students to be part of history and fly an experiment on what could be the last space shuttle mission. The program is the Student Spaceflight Experiments Program (SSEP) for the STS-135, the shuttle mission that might fly in June of 2011.

SSEP is a new program that launched in June 2010 by the National Center for Earth and Space Science Education in partnership with NanoRacks, LLC, a company that is working with NASA under a Space Act Agreement as part of the utilization of the International Space Station as a National Laboratory.

The company hopes to stimulate space station research by providing a very low-cost 1 kilogram platform that puts micro-gravity projects within the reach of universities and small companies, as well as elementary and secondary schools through SSEP. So, this is actually a commercial space program and not a NASA program.

This opportunity offers real research done on orbit, with students designing and proposing the experiments to fly in low Earth orbit.

According to the National Center for Earth and Space Science Education, "We hope to get 50 communities and 100,000 students participating in the initiative which allows grade 5-14 student design of real experiments to fly aboard Atlantis, and engages entire communities,"

But it is now time critical for schools to be able to participate. There is a proposal submission deadline of May 12, 2011. By the end of May, the flight experiments will be selected, so that NASA can be provided with the materials list 3 months in advance of launch.

For more information see the SSEP website http://ssep.ncesse.org/

[ANS thanks UniverseToday for the above information]

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SB SAT @ AMSAT $ANS-044.08
Launch Opportunity To All Balloon Groups, Or Individuals

AMSAT News Service Bulletin 044.08
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Joe, WB9SBD of Near Space Sciences, a group that specializes in high altitude balloon flights is offering a launch opportunity that will be a once in a lifetime opportunity!

Near Space Sciences is looking for proposals to fly a payload on a maximum altitude record attempt to +250,000 feet. Other mission plans include to allow the high altitude balloon to be a free-floating flight since it will not burst at its max-mum altitude.

For more details visit: http://www.qsl.net/wb9sbd/300K.html
Joe will post any proposals he receives for everyone to examine.

[ANS thanks Joe, WB9SBD for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office. And, with that, keep in mind the ham who thought he found the perfect hands-on job where he set his own hours as a watchmaker. When that didn't work out he tried to become a grocer but it only offered a meager celery and he came home every evening beet.

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM